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MAYOR'S OFFICE OF HOUSING
CITY AND COUNTY OF SAN FRANCISCO



ART AGNOS
MAYOR

BRADFORD PAUL
Deputy Mayor
Housing and Neighborhoods

BARBARA T. SMITH
Director

EARTHQUAKE IMPACT ON LOW AND MODERATE INCOME HOUSING

Report #4

November 20, 1989

SUMMARY OF BUILDINGS AND UNITS DAMAGED

The following Summary is based upon the most recent complete D.P.W. report, issued November 12, 1989. Subsequent to that report, additional inspections have been made, though not reported. An adjustment factor has been used in the following summary.

1. Summary of Housing Damage	Red	Yellow	Green	Total
Total Number of Units				
Low and Moderate Income	986	3,069	11,087	15,142
Market Rate	496	1,737	7,502	9,735
Total	1,482	4,806	18,589	24,877
2. Summary of Residential Building Damage	Red	Yellow	Green	Total
Total Number of Buildings				
Low and Moderate Income	93	373	877	1,343
Market Rate	58	368	2112	3,881
Total	151	741	2,989	5,224

REPAIR AND REPLACEMENT COSTS OF \$214,000,000

The average repair or replacement costs for the Red structures could be \$80,000 per unit, or \$118 million total. This total assumes no land costs. The total repair costs for the Yellow buildings could average \$20,000 per unit, or \$96 million total. Site acquisition, administrative and technical costs, construction financing costs, and other indirect costs are not included in this estimate. The costs for seismic preventative repair on undamaged but potentially unsafe buildings is also not included. Including these costs could increase the above totals by 100% or more.

Note: All numbers are estimates projected from current data and records. The total number in any column may change by up to 10% in either direction before a final report is certified.

EXPLANATION

The Mayor's Office of Housing has analyzed the information regarding the damage to residential buildings in San Francisco. The damage reports have been provided in summary form by the Department of Public Works, after two weeks of an intensified effort to determine the damage to approximately 5000 buildings throughout the city. Repeat inspections have been made of many structures during this period, and changes in damage classification have occurred as part of this process. The inspections have been made only to determine the extent of structural damage incurred.

The Department of Public Works will need several more days to complete their summary reports, and to correct errors and omissions in the reports. As of 2 p.m. today, approximately 5,000 buildings have been given final classification. More loggings still need to be recorded.

At this date, the margin of error may be 10-15% in either direction.

CLASSIFICATION OF DAMAGE

The damage assessment reports have utilized the following codes to describe building damage:

- Green - Indicates no apparent structural damage, and safe for unlimited occupancy. Buildings in this category may have sustained non-structural damage, such as broken windows, damaged plaster, disrupted utilities, or damaged exterior surfaces. Repair of these damages may be required to restore full habitability to the buildings.
- Yellow - Indicates possible structural damage to portions of the building, requiring limited occupancy. Owner's are required to retain a structural engineer to verify the extent of the damage. Owners will be required to correct the damage. In addition to the non-structural damage that may have occurred, the structural damage ranges from door and window lintels, and minor structural elements, to entire portions of the building having sustained moderate displacement, cracking, or deformation of load bearing walls, columns, floors, beams, joists, or parapets.
- Red - Indicates severe structural damage, determined to be unsafe for occupancy and a potential public hazard. In addition to the requirements and characteristics of the Yellow buildings, the majority of the Red buildings require immediate shoring to prevent possible collapse. At the extreme, immediate demolition of some of these buildings may be required by the Department of Public Works. At least 10 residential buildings including over 500 units of housing have been demolished as of this date.

RESIDENTIAL
 SAN FRANCISCO EARTHQUAKE DAMAGE
 11/12/89 SUMMARY BY STATUS & ZIP

ZIP	STATUS	#BLDGS	UNITS	AREA
94102	RED	2	313	17800
94103	RED	14	205	384622
94105	RED	2	0	43657
94107	RED	10	2	150783
94110	RED	5	12	135634
94111	RED	5	0	66426
94116	RED	1	1	2173
94117	RED	1	12	16500
94118	RED	4	28	26543
94121	RED	3	23	21315
94122	RED	8	18	22304
94123	RED	54	468	368875
94133	RED	2	104	49326

TOTAL	RED	111	1186	1305958
94102	YELLOW	18	284	771063
94103	YELLOW	48	393	1869572
94104	YELLOW	5	0	530508
94105	YELLOW	13	0	715297
94107	YELLOW	34	107	2176610
94108	YELLOW	7	35	156258
94109	YELLOW	21	627	451199
94110	YELLOW	51	250	690950
94111	YELLOW	13	0	1146035
94112	YELLOW	11	20	24025
94114	YELLOW	13	34	63547
94115	YELLOW	25	217	363683
94116	YELLOW	5	5	10430
94117	YELLOW	33	202	168080
94118	YELLOW	37	195	208271
94121	YELLOW	60	260	281000
94122	YELLOW	85	293	345098
94123	YELLOW	205	1204	1171176
94124	YELLOW	6	1	566450
94127	YELLOW	2	1	13196
94131	YELLOW	2	5	5325
94133	YELLOW	10	231	182667
94134	YELLOW	3	5	4900

TOTAL	YELLOW	707	4369	11915340

SAN FRANCISCO EARTHQUAKE DAMAGE
11/12/89 SUMMARY BY STATUS & LAND USE

STATUS	USE	#BLDGS	UNITS	AREA
RED	• A	36	712	375015
RED	• AC	1	34	10125
RED	C	2	0	127166
RED	• D	18	19	36111
RED	• F	21	47	63832
RED	• H2	4	325	107111
RED	HC	1	0	4930
RED	I	15	0	440091
RED	O	8	0	139281
RED	X	1	0	0
RED	• Z	4	49	2296
<hr/>				
TOTAL	RED	111	1186	1305958
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YELLOW	• A	196	2779	2083624
YELLOW	• AC	1	22	16055
YELLOW	B	1	0	1960
YELLOW	C	32	0	606557
YELLOW	• CO	1	18	58660
YELLOW	• D	153	158	322846
YELLOW	• DA	1	3	3000
YELLOW	• F	171	376	538899
YELLOW	• F2	15	108	124333
YELLOW	G	5	0	114132
YELLOW	• H2	17	870	324861
YELLOW	HC	1	2	14984
YELLOW	I	43	0	3134407
YELLOW	M	2	0	18747
YELLOW	N2	1	0	2784
YELLOW	O	38	0	3505611
YELLOW	P	3	0	574346
YELLOW	T	2	0	18116
YELLOW	U	6	0	270430
YELLOW	V	2	0	23244
YELLOW	W	6	0	141260
YELLOW	X	2	0	10520
YELLOW	• Z	8	33	5964
<hr/>				
TOTAL	YELLOW	707	4369	11915340

RESIDENTIAL

SAN FRANCISCO EARTHQUAKE DAMAGE
11/12/89 SUMMARY BY STATUS & ZIP

ZIP	STATUS	#BLDGS	UNITS	AREA
94102	GREEN	95	2292	6327091
94103	GREEN	102	602	3347103
94104	GREEN	25	45	3609473
94105	GREEN	20	0	5064163
94107	GREEN	46	608	989872
94108	GREEN	55	551	5004824
94109	GREEN	114	4021	3042584
94110	GREEN	150	753	1497988
94111	GREEN	38	113	4244656
94112	GREEN	78	107	324996
94114	GREEN	84	337	351396
94115	GREEN	68	1282	1454729
94116	GREEN	48	98	148902
94117	GREEN	124	582	659870
94118	GREEN	202	839	937224
94121	GREEN	191	689	743890
94122	GREEN	405	821	1049337
94123	GREEN	966	3928	4717100
94124	GREEN	32	65	667630
94127	GREEN	12	31	58132
94131	GREEN	49	135	165155
94132	GREEN	15	13	53801
94133	GREEN	51	650	900479
94134	GREEN	19	27	40245

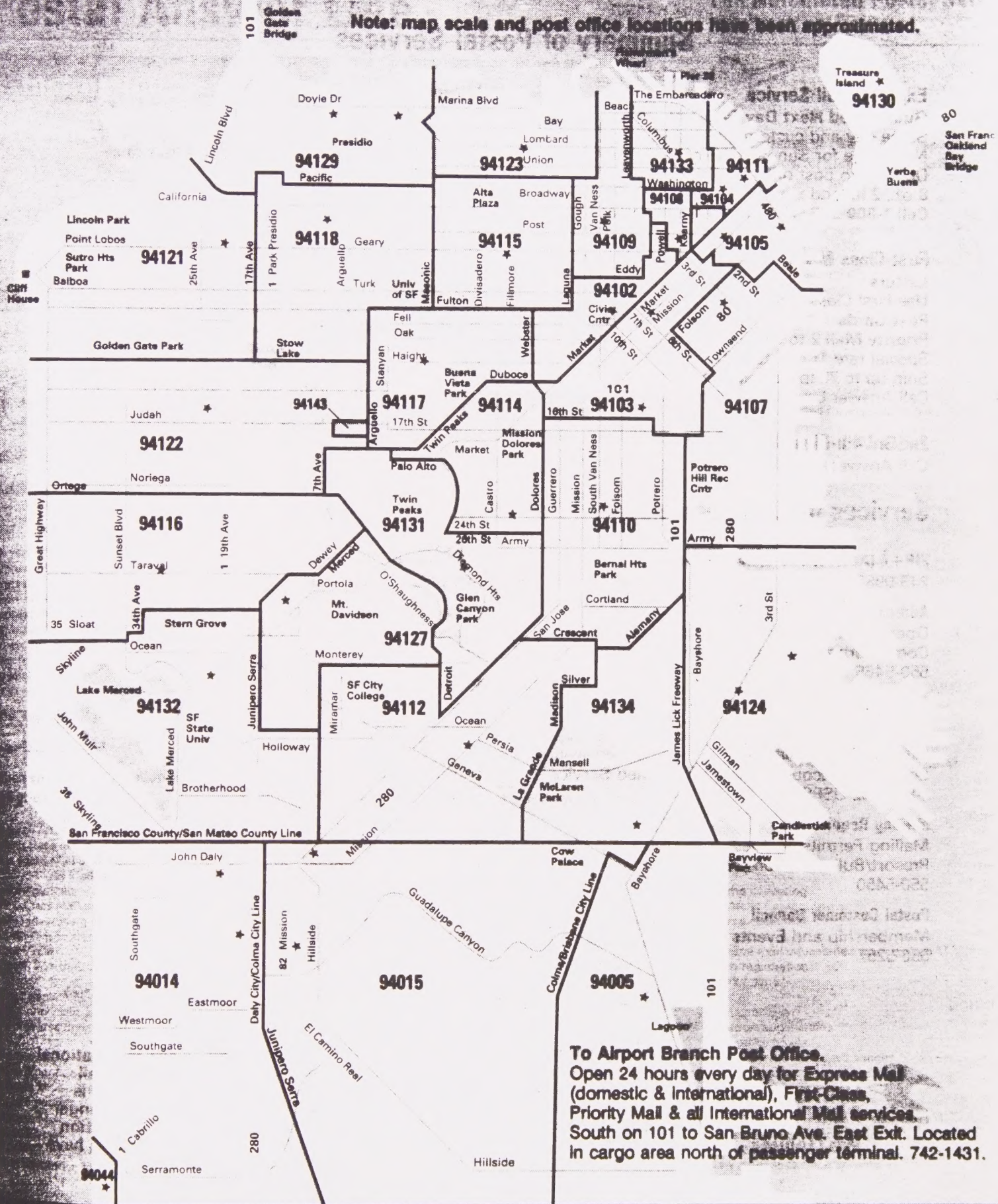
TOTAL	GREEN	2989	18589	45400640
94102	BLANK	3	0	320238
94104	BLANK	1	0	54005
94109	BLANK	1	80	0
94110	BLANK	2	6	6950
94112	BLANK	2	2	3025
94114	BLANK	1	4	2930
94115	BLANK	1	1	0
94121	BLANK	1	1	1625
94122	BLANK	14	28	32321
94123	BLANK	3	14	11521
94131	BLANK	2	2	1336

TOTAL	BLANK	31	138	433951

SAN FRANCISCO EARTHQUAKE DAMAGE
11/12/89 SUMMARY BY RES/COM & ZIP

RESIDENTIAL	ZIP	#BLDGS	UNITS	AREA
North of Market	94102	125	6102	4112386
South of Market	94103	92	3280	1457274
Downtown	94104	1	45	0
South of Market	94105	1	61	22500
South of Market	94107	34	838	462491
Chinatown	94108	48	1329	752501
Polk/Bush	94109	237	8426	5021712
Inner Mission	94110	185	1315	1123138
Downtown	94111	5	237	71140
Excels/Cr Amazon	94112	81	132	162356
Castro	94114	97	408	411692
Western Addition	94115	97	1647	1656345
Sunset	94116	52	113	133867
Haight	94117	157	870	830227
Richmond	94118	240	1097	1146357
Richmond	94121	257	977	1045638
Sunset	94122	497	1162	1403325
Marina	94123	1177	5644	6001214
Hunter's Point	94124	26	67	62545
West Twin Peaks	94127	8	32	31428
Glen Park	94131	51	142	151207
Park Merced	94132	13	13	16912
North Beach	94133	91	2646	1575959
Portola	94134	23	33	46020
TOTAL		3595	36616	27698234
COMMERCIAL				
North of Market	94102	111	0	6291995
South of Market	94103	333	35	10642573
Downtown	94104	38	0	4278255
South of Market	94105	102	0	7058571
South of Market	94107	164	0	8008582
Chinatown	94108	110	0	5849378
Polk/Bush	94109	82	0	2243473
Inner Mission	94110	106	0	2981410
Downtown	94111	118	0	6915251
Excels/Cr Amazon	94112	20	0	388753
Castro	94114	13	0	75829
Western Addition	94115	28	0	1076568
Sunset	94116	7	0	50867
Haight	94117	16	0	205802
Richmond	94118	19	0	313721
Richmond	94121	5	0	27016
Sunset	94122	18	0	65717
Marina	94123	55	0	339310
Hunter's Point	94124	18	0	1308783
West Twin Peaks	94127	6	0	39900
Glen Park	94131	7	0	205733
Park Merced	94132	2	0	36889
North Beach	94133	70	0	1033801
Portola	94134	2	0	292612
TOTAL		1450	35	59730789
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SF TOTAL		5045	36651	87429023

Note: map scale and post office locations have been approximated.



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